

# FLIGHT

*The*  
AIRCRAFT  
ENGINEER  
&  
AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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## Flight

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## DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

<b>1924</b>	
Aug. 22 ....	Entries Close at Ordinary Fees for Light 'Plane Competition at Lympne.
Sept. 5 ....	Entries Close at Double Fees for Light 'Plane Competition at Lympne.
" 27-28	Eliminating Tests for Light 'Plane Competition at Lympne.
" 27-	
Oct. 8	Wireless Exhibition at Albert Hall, Kensington.
Sept. 29-	
Oct. 4	2-Seater Light 'Plane Competition at Lympne.
Oct. 2 ....	Aero Golfing Society. Autumn Meeting, at Moor Park Golf Club, for A.G.S. Challenge Cup presented by Cellon (Richmond) Ltd.
" 2 ....	Lieut.-Col. H. T. Tizard, A.F.C., F.R.Ae.S. (of the Department of Scientific and Industrial Research), Chairman: Inaugural Lecture.
" 4 ....	Grosvenor Challenge Cup Race at Lympne.
October ....	Schneider Cup Race, Baltimore.
Dec. 5-21	Paris Aero Show.

## EDITORIAL COMMENT.



PUBLISHED as a White Paper recently, the Despatch from the first British delegate to the International Commission for the Revision of the Rules of Warfare, together with the general report of the Commission of Jurists to consider and report upon the Revision of the Rules of Warfare, is a document of absorbing interest, even if it is realised, and fully admitted, that with the best of intentions such a set of rules still have to be accepted by the governments concerned, while there must necessarily always be the danger that when hostilities break out one or other of the contracting parties may treat any such agreement as a "scrap of paper." In this connection it is significant to note that more than once, in the commentary notes accompanying the actual articles, reference is made to this possibility and to the abuse which Germany saw fit, during the war 1914-18, to make of various armed forces. That the task of the Commission of Jurists was a formidable one will be realised even by those not intimately in touch with the methods of aerial warfare, and it is to the credit of all concerned that it was ultimately found possible to reach agreement upon all save a few specific subjects to which reference will be made later.

The Report is signed by the Delegates of the British Empire, the United States of America, France, Italy, Japan and the Netherlands. The Commission of Jurists was appointed as a result of a resolution passed by the Washington Conference at its sixth Plenary Session on February 4, 1922, to consider the following questions:—(a) Do existing rules of international law adequately cover new methods of attack or defence resulting from the introduction or development, since the Hague Conference of 1907, of new agencies of warfare? (b) If not so, what changes in the existing rules ought to be adopted in consequence thereof as a part of the law of nations? The Report is divided into two parts, of which Part I deals with the rules for the control of radio in time of war, and Part II with rules of aerial warfare. In his despatch to the Marquess Curzon of Kedleston, Sir Rennell

Rodd states: "The difficulties presented by the question of the use of aircraft for the exercise of the belligerent right of visit and search of merchant vessels have, however, remained without a final solution. The report indicates with sufficient precision the point of view of the various Delegations on this subject, and shows that further consideration must be given to this question before any unanimous agreement can be arrived at."

To its general report the Commission adds the statement that "It believes that if these sets of rules are approved and brought into force, it will be found expedient to make provision for their re-examination after a relatively brief term of years to see whether any revision is necessary."

Elsewhere in this issue of FLIGHT we have published in full the articles themselves, but much more may really be gleaned from a perusal of the explanatory notes interspersed in the text of the Report. We have not the space here to do other than make brief reference to a few of the articles and the commentary which accompanies them.

In the case of Article 9, dealing with the conversion of non-military into military aircraft, it is pointed out that this was based upon a proposal first submitted by the Japanese Delegation, and "that the proposal received the support of a majority of the delegations only, the French Delegation being unable to accept it." To those who have followed the developments of French civil aviation during the last four or five years, although this will scarcely come as a surprise, it is very significant.

With regard to Article 11, it is pointed out that this embodies the general principle that in the airspace over the high seas, all aircraft have full freedom of passage, and that provisions embodied in other articles are to be regarded as exceptions to this general principle.

Among the most important subjects dealt with is that of aerial bombardment, treated in articles 22 to 26 inclusive. Incidentally, it must also have been one of the most difficult to deal with in framing any code of rules for aerial warfare. On this question the commentary states "... it is equally clear that the aircraft is a potent engine of war, and no State which realises the possibility that it may itself be attacked, and the use to which its adversary may put his air forces, can take the risk of fettering its own liberty of action to an extent which would restrict it from attacking its enemy where that adversary may legitimately be attacked with effect. It is useless, therefore, to enact prohibitions unless

there is an equally clear understanding of what constitutes legitimate objects of attack, and it is precisely in this respect that agreement was difficult to reach."

On the subject of privileged buildings (article 25) the commentary points out that "By day, these privileged buildings must be marked in a way which will make them visible to aircraft; the marks agreed on being those laid down in the Geneva Convention and in the Naval Bombardment Convention: the use of such marks is made obligatory so as to correspond with the duty placed on the adversary of sparing such buildings. By night, however, the use of lights to make the special signs visible is optional because experience has shown that such lights may serve as guides to night-flying aircraft and may thereby be of service to the enemy."

The greatest stumbling-block to unanimous agreement was provided by the question of the belligerent rights to visit, search, capture, and the condemnation of enemy commerce. The articles dealing with this subject are contained in Chapter VII of the report, and it is stated that the Netherlands Delegation has not accepted the rules contained in this chapter. No article on the subject of the right of visit and search of merchant vessels by military aircraft has secured the votes of the majority of the delegations, and it is pointed out that "Although all the Delegations concurred in the expression of a desire to adopt such rules as would assure the observance of the dictates of humanity as regards the protection of the lives of neutrals and non-combatants, the Commission, by reason of a divergence of views as to the method by which this result would best be attained, was unable to agree upon an article dealing with the exercise of belligerent rights by aircraft against merchant vessels. The code of rules proposed by the Commission, therefore, leaves the matter open for future regulation."

In conclusion, and on the subject of violation of the rules, the report states: "No provision is made in the articles adopted as to the penalties to which persons violating the rules are to be subject. Some of the provisions in the drafts laid before the Commission stated that persons violating the article in question were to be punishable with death, or were to be treated as war criminals. No such stipulation figures in the Land Warfare Regulations, and it has seemed better to omit it. Its absence will not in any way prejudice the imposition of punishment on persons guilty of breaches of the laws of aerial warfare."



Frontier Chiefs being taken up for "joy-rides" by officers of the R.A.F. At first reluctant, they all eventually enjoyed this novel experience. Reproduced by courtesy of the "I.P.M.," Delhi.



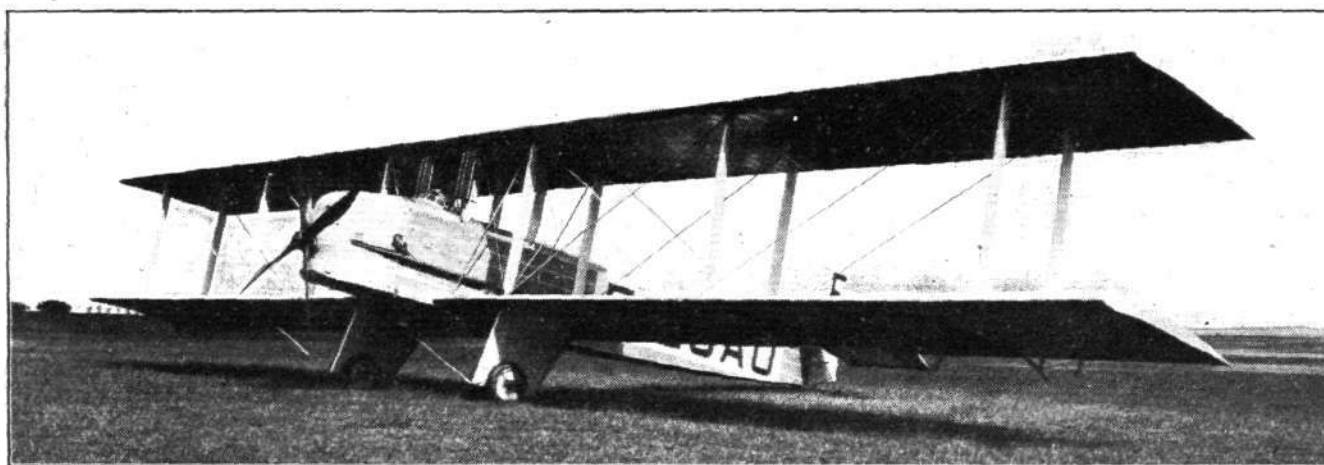
## THE FARMAN F. 62

The Combination which Brought the World's Duration Record Back to France

ON July 17, 1924, the French pilots Coupet and Drouhin succeeded in establishing a new world's record for duration by remaining in the air, without refuelling, for 37 hrs. 59 mins. 10 secs. By this performance they thus beat not only previous duration flights without landing, but also, and what is more important still, the American record flight in which the machine used was refuelled from another a number of times. This is a performance of which the Farman firm may well be proud. What adds further to the merits of the flight, as far as the

when they again touched the ground at the Chartres aerodrome. It had been intended to attempt to establish a distance record as well as a duration record, and for the first 20 hrs. or so they flew over the route Chartres-Etampes, situated 100 km. (62 miles) apart.

The petrol supply carried should have been sufficient for a 42-hours' flight, and but for the bad weather which set in there is little doubt that the Farman would have remained up for considerably more than the 38 hrs. actually attained.



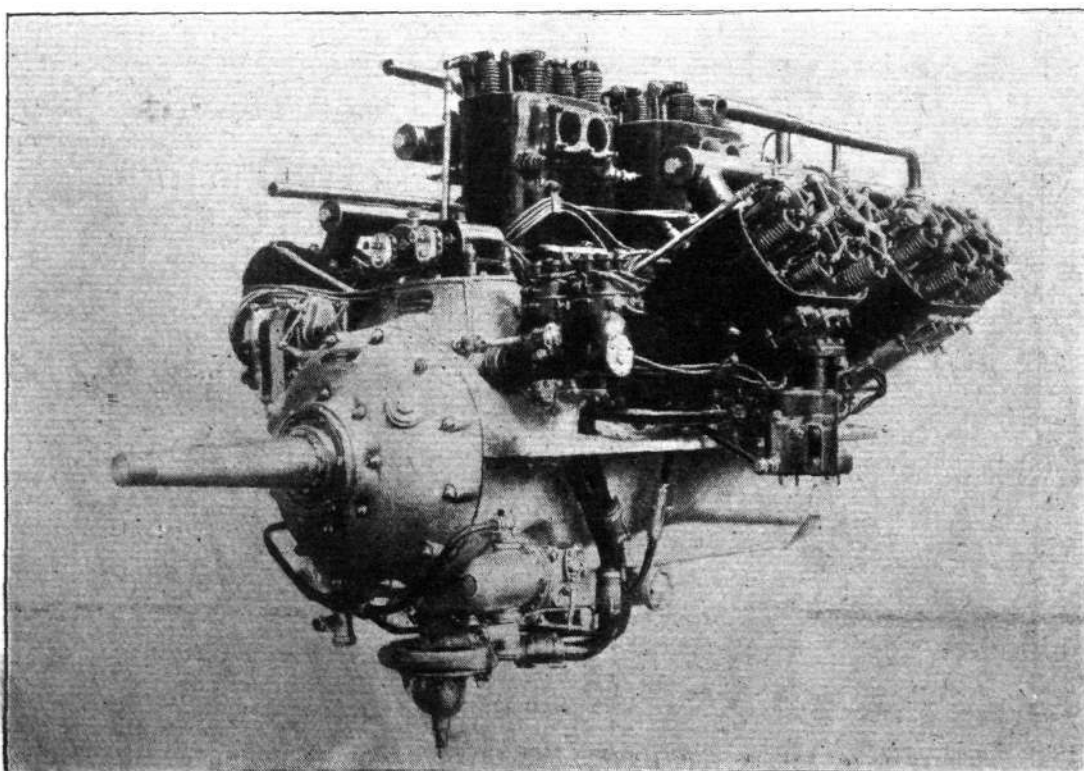
THE FARMAN F. 62: 'Fitted with a 450 h.p. Farman engine, this machine has established a new World's Record (Duration) of 38 hours. The machine is similar to the "Goliath" except for the single engine.

Farman firm is concerned, is the fact that the engine as well as the machine was of Farman design and construction. This is probably the first time, at any rate since the very early days of flying, that a French aircraft firm has established a world's record with one of its own engines.

Before commencing a brief description of the machine and engine, both of which are illustrated herewith, it may be of interest to give an outline of the flight itself. Leaving the ground (at Chartres) at 5.02 a.m. on July 16, with 4,200 litres (924 gallons) of petrol on board, the aviators continued to circle until 7 hrs. 1 min. 10 secs. on the evening of July 17,

Over the Chartres-Etampes course, Drouhin and Coupet covered 1,500 km. (938 miles) in 14 hrs. 43 mins., corresponding to a mean speed of about 63.8 m.p.h. It was not until they had covered a little more than 2,000 km. (1,250 miles) that a gale sprang up, and in the darkness the two gallant aviators were unable to keep sufficiently close to their course for the official observers on the ground to keep time of their laps. It was then decided to abandon the idea of establishing an officially-observed distance record, and to confine attention to the beating of the previous duration records. As dawn was breaking they succeeded in getting

The Farman aero engine, type 12 WD, which was fitted in the F. 62 that established a new world's record for duration. The engine is of the "Broad Arrow" type, with 12 cylinders in three banks of four each.



on their proper course again, but by then it was too late to think of recommencing timed lapping, and the remainder of the record flight was made circling around the Chartres aerodrome and neighbourhood.

At 3 hrs. 16 mins. 7 secs. in the afternoon, the French duration record established in 1922, by Bossoutrot and Drouhin on a Farman "Goliath," was beaten, and at 5 hrs. 6 mins. 2 secs. the world's record established by MacReady and Kelly without refuelling was beaten. At 6 hrs. 17 mins. 14 secs. the American duration record with refuelling, established in 1923 by Smith and Richter, was exceeded, and finally at 7 hrs. 1 min. 10 secs. a landing was made at Chartres, the new world's duration record having been raised to 37 hrs. 59 mins. 10 secs.

The machine used in the record flight was a single-engined Farman, very similar to the well-known "Goliath" but fitted with a single Farman engine of 450 h.p. in place of the two Salmson or Renault engines usually fitted in the "Goliath." The machine carries the series number Farman F. 62, and has wings identical with those of the "Goliath." The fuselage also is similar, except for the nose which has been re-designed

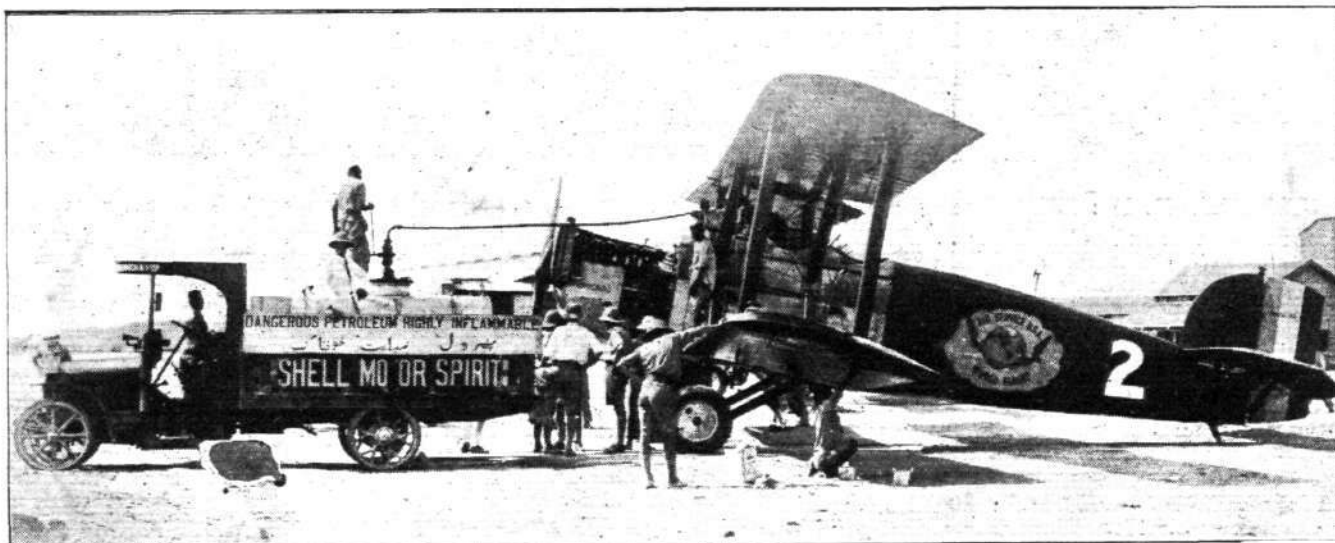
to take the large engine. The wing area of the F. 62 is 170 sq. metres (1,830 sq. ft.), and the wing span is 28 metres (91 ft. 10 ins.). As it left the ground the F. 62 weighed no less than 6,400 kgs. (14,100 lbs.), so that at the start the power loading was about 31.3 lbs./h.p. and the wing loading 7.7 lbs./sq. ft. The machine, nevertheless, got off well, and seemed to have a reasonably good climb.

The Farman engine used was the type 12 W.D., which is normally rated at 400 h.p., but which develops a maximum of 520 h.p. at 2,200 r.p.m. It is of the "broad-arrow" type, with three banks of cylinders of four each. The cylinders have a bore of 130 mm. and a stroke of 160 mm. The cylinder capacity is 25.4 litres. A reduction gear is normally fitted although direct drive can be employed for fast machines. The gear ratio varies, according to the type of machine used, and the following ratios have been standardised: 2 to 1, 1.84 to 1, 1.67 to 1, and 1.5 to 1. The weight of the engine, complete with all accessories, is given as 560 kgs. (1,232 lbs.), and the petrol consumption is 220 grammes (0.484 lb.) per h.p. per hour, and the oil consumption 10 grammes (0.022 lb.) per h.p. per hour.

## PROGRESS IN THE BIG FLIGHTS

Most of the progress in the world-flights from the evening of Tuesday of last week to the evening of Tuesday of this week has been made by the Argentine aviator Major Zanni, who

week, August 14, that he was able to get away from Calcutta, but when he did get away he made a direct flight *via* Akyab, landing at Rangoon at a quarter past four in the afternoon.



THE AMERICAN WORLD-FLIGHT: One of the Douglas world-cruisers, the "Chicago," filling up with "Shell" at Karachi, India, in July last.

is flying a Fokker C.IV, with Napier "Lion" engine. Last week we were able to announce Major Zanni's arrival at Calcutta on August 8. It was not until Thursday of last

He reported heavy rains over almost the whole distance. Fearing that the only engine Major Zanni has used up till now might have been damaged, the Napier firm telegraphed him



THE DORNIER "WAL" AT STROMNESS: This flying boat, built entirely of metal, was designed by Herr Dornier, a German designer, was built in Pisa by Italian workmen, and is fitted with two Rolls-Royce "Eagle" engines, placed in tandem above the wing.





Just before the Start: Our picture shows Major Zanni and his engineer, Mr. Beltrame, while between them is Mijneer Anthony Fokker, the designer of the machine. It is of interest to note that for the world-flight an Argentine pilot flying a Dutch machine should have chosen a British Napier "Lion" engine.

to enquire, and received the reply: "I am continuing with first engine, as it has run perfectly until now." Major Zanni did not remain long at Rangoon, for on the next day, August 15, he left for Bangkok at 7.35 a.m. Reports as to where he spent the night are somewhat contradictory, but, at any rate, he turned up at Bangkok on Saturday, August 16. Leaving again the next morning (Sunday) at 7 a.m., Major Zanni arrived at Hanoi, in French Indo-China, on Monday, August 18.

In the meantime Signor Locatelli, who is piloting a Dornier "Wal," with two Rolls-Royce "Eagle" engines placed in tandem above the monoplane wing, made an attempt, on Wednesday of last week (August 13), to fly to Iceland via the Faroe Islands, but after about an hour's absence he returned to Stromness, having encountered bad weather. He ultimately got away from Stromness on the afternoon of Friday, August 15, and arrived safely at Thorshavn, Faroe Islands, after 2 hours 10 minutes' flying. He had intended to continue on to Iceland, but in view of the late start, caused by

unfavourable weather, from Stromness his time of arrival in the Faroe Islands was somewhat late, and he decided to wait until next morning before proceeding to Iceland. On Saturday, August 16, Signor Locatelli got away from Thorshavn about 9 a.m. and arrived safely at Hornafjord in Iceland about noon. On the next day, Sunday, August 17, he flew across to Reykjavik, where he joined the American aviators.

Up to the time of going to press there is no news of the Americans or Signor Locatelli having left Reykjavik. It appears that it has not yet been possible to find a suitable alighting space near the Greenland coast, and two minor mishaps have also caused delay. It had been decided to make the attempt to fly to Frederiksdal, near Cape Farewell, on the southernmost point of Greenland, on Monday, August 18, but in trying to take off from the harbour at Reykjavik one of the American seaplanes broke a strut in the undercarriage and the other machine damaged its propeller, so that no start can be made until the damage has been repaired.

## The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

### GROSVENOR CHALLENGE CUP

(Under the Competition Rules of the Royal Aero Club)

AT LYPNIE AERODROME, NEAR HYTHE, KENT  
ON SATURDAY, OCTOBER 4, 1924

#### Prizes.

**1st Prize.**—Grosvenor Challenge Cup and £100, presented by Lord Edward Grosvenor.

**2nd Prize.**—£50, presented by the Royal Aero Club.

The Winner of the Grosvenor Challenge Cup for 1924 will be the Entrant of the Competitor who first completes the course of approximately 100 miles in a Handicap Race under the following conditions:—

#### Supplementary Regulations I

**Date.**—The Race will take place on Saturday, October 4, 1924.

**Organisation.**—The Race shall be conducted by the Royal Aero Club under the Competition Rules of the Royal Aero Club.

**Competitors.**—The entrant and pilot or pilots must be British subjects. The entrant must be an individual and not a company.

**Aeroplane.**—The Competition is open to any Aeroplane, the total piston displacement of the power plant of which does not exceed 1,100 c.c.

**Course.**—The distance is approximately 100 miles, and will consist of a flight from Lympne to Manston and back twice.

**Starting.**—Competitors will be started from Lympne Aerodrome in accordance with their handicap.

**Entries.**—The Entry Fee is £2. This fee, together with the entry form, must be received by the Royal Aero Club, 3, Clifford Street, London, W.1, not later than 12 noon, on Tuesday, 23rd September, 1924.

Offices: THE ROYAL AERO CLUB,  
3, CLIFFORD STREET, LONDON, W.1.

H. E. PERRIN, Secretary

# LIGHT 'PLANE AND GLIDER NOTES

*Those wishing to get in touch with others interested in matters relating to gliding and the construction of gliders are invited to write to the Editor of FLIGHT, who will be pleased to publish such communications on this page, in order to bring together those who would like to co-operate, either in forming gliding clubs or in private collaboration.*

MOST of the British aircraft firms are now busily at work either completing their machines for the Lympne competitions or actually testing them out in the few cases where the machines have already been completed. In the former category are the Air Navigation and Engineering Co. of Addlestone, whose machine is being flown by Mr. "Jimmy" James. We understand that this machine is fitted with an Anzani engine, and that on the flights already carried out it has been doing very well. During last week we paid a visit to the West of England, and were glad to find one of the three Bristol machines entered undergoing its preliminary flying tests. On the day of our visit to Filton the Bristol, which is, of course, fitted with a Bristol "Cherub" engine, was first flown by Mr. Uwins solo, then by Capt. Barnwell himself solo, and finally both went up together. The machine certainly flies extremely well, and the "Cherub" has a splendid note as the machine passes overhead. The last we saw of the Bristol was a fine side-slip landing into the Filton aerodrome. The controllability appeared to be all that one could ask, and Mr. Uwins repeatedly stalled the machine, which came out after a very small drop. At the moment we are not at liberty to publish a detailed description, but we can assure our readers that the three Bristols incorporate some very interesting constructional features. The type will be known as the Bristol "Brownie."

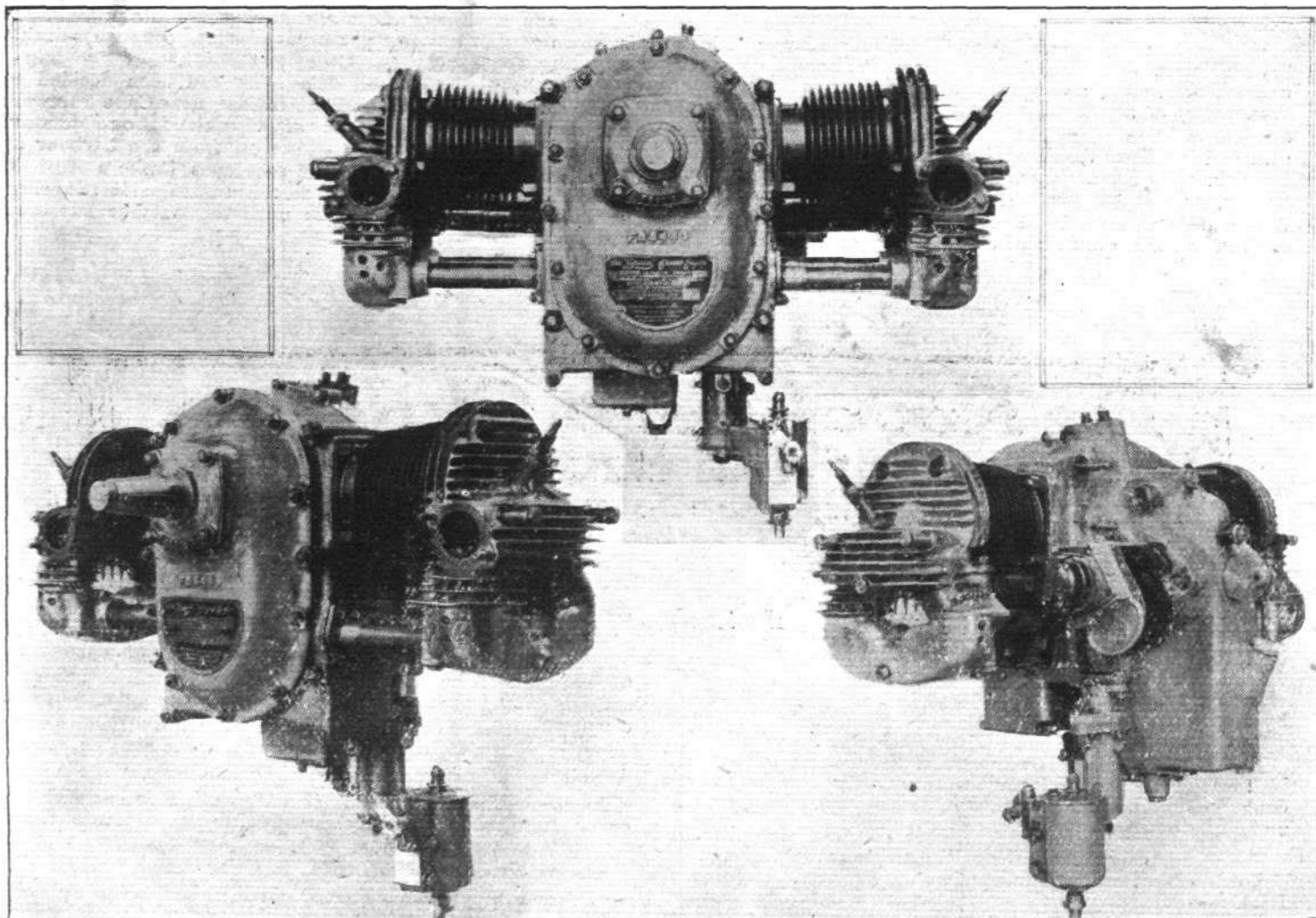
At the Coliseum works at Bristol we found two Parnall machines nearing completion, and these also will be found to contain much that is unusual, and which represents Mr. Bolas's idea of what a light 'plane should be, not only

in order to gain marks in the competition, but also for practical use afterwards. At present the successors to the "Pixie" have not been given a type name.

At Yeovil three Westland machines are coming along nicely, although at present but two have been entered. As mentioned in these notes last week, one is a biplane and the other a monoplane, and both show interesting features, constructional as well as aerodynamic. We hope shortly to be able to publish illustrated articles dealing with the machines. One type, incidentally, will be known as the Westland "Wood Pigeon" and the other as the Westland "Widgeon."

ANOTHER two entries have, we understand, been received by the Royal Aero Club for the forthcoming light 'plane trials at Lympne. These both come from the H. G. Hawker Engineering Co. of Kingston, and bring the total so far entered up to 15. It is known that at least another three machines will be entered, and probably more, so that it looks as if the figure of entries may, as we suggested last week, reach the 20 mark.

LAST week we mentioned briefly that the Bristol "Cherub" engine was reported to have passed its Air Ministry type-tests successfully, and that the power was 32.6 b.h.p. at 3,200 r.p.m. We have now had this information confirmed, and are able to supply a few additional facts and figures concerning the tests, as well as the three views of the engine published herewith. Other views were first and exclusively published in FLIGHT of May 29, 1924. A production type "Cherub," of the ungeared type and of 1,095 c.c. capacity, was submitted for tests, and completed these on July 26, 1924. The rated power of this engine is 24 b.h.p. at 2,500 r.p.m. and a maximum of 32.6 b.h.p. at 3,200 r.p.m. The B.M.E.P. is 121 lbs./sq. in. A 25-hours' endurance test was completed, and included one 10-hours' non-stop test. It is worthy of note that the



Front, three-quarter front, and three-quarter rear views of the Bristol "Cherub" engine, which has now successfully passed the Air Ministry type-tests.



b.h.p. at full throttle at the end of the 25-hours' test was slightly better than at the beginning of the test. The runs included 12.5 hours on the dynamometer at 90 per cent. of the rated 24 b.h.p., i.e. at 21.6 b.h.p., and 11.5 hours in hangar (thrust test) at 2,550 r.p.m. and one hour on dynamometer at full throttle, i.e. 26.4 b.h.p., at 2,500 r.p.m. The consumption was 0.625 pint/b.h.p./hour.

At the completion of the 25-hours' endurance test the engine was run for one hour at full throttle, maximum power, and maximum revolutions, and one hour high-speed test at 3,360 r.p.m., when the power developed was 31.8 b.h.p. At 3,200 r.p.m. the power was 32.6 b.h.p., with a consumption of 0.582 pint/b.h.p./hour. During a 12½ hours' run the following consumption figures were taken: Oil, 12½ pints = 1 pint per hour = 0.0463 pint/b.h.p./hour. Petrol 167 pints = 13.35 pint/hour = 0.62 pint/b.h.p./hour.

We were privileged to see some of the "Cherubs" passing through the shops at Filton, and it was found that exactly the same painstaking care was bestowed upon the small engines as on the larger types, the "Lucifer" and "Jupiter." Aero practice has been followed throughout, and there is nothing of the "motor-bike" engine about the "Cherub." Incidentally it may be mentioned that a geared type is also being developed which has a different crankcase for the reduction gear, etc., but which is otherwise identical with the direct-drive type. At the moment, however, the geared engine has not been through the same searching test runs as the ungeared, and we believe that as a consequence the makers recommend the direct-drive type until such time as the geared engine has been thoroughly tested-out, the principle of the Bristol Aeroplane Co. being not to recommend anything new until they have satisfied themselves that all "teething troubles" have been overcome. There is no reason whatever to believe that there will be any difficulty with the geared engine, but it is still comparatively untried.

It would appear that several of the machines to be entered at Lympne will be fitted with an engine of which the general public has hitherto heard practically nothing. This is an 1,100 c.c. Anzani, designed and built specially for the competitions by the British Anzani Engine Co., Ltd., of 30, Scrubbs Lane, London, N.W.10. This engine, a Vee-twin air-cooled, has overhead valves, four in each cylinder, and a two-to-one reduction gear is incorporated in the design. The engine looks remarkably well-made, and although it is as yet comparatively an unknown quantity, the gruelling test which engines will necessarily be put through at Lympne—such as at least 150 miles at full power, and probably in some cases 300 miles, or even 450 miles at full power—is sure to bring out any weak spots. We believe that the Anzani is somewhat heavy, as light 'plane engines go, but, on the other hand, for practical use after the competitions the question of a few pounds of extra weight is not, perhaps, of such very great importance compared with the question of reliability. We understand, although we are not speaking from personal observation, that the A.N.E.C. monoplane is fitted with one of these engines, and that so far the results have been very good. This particular engine is, we believe, of the direct-drive type.

Like the 696 Blackburne engine of last year—now altered in accordance with Air Ministry ideas and become the "Tomtit," it would appear desirable to mount the Anzani "upside-down," not only on account of the better view thus obtained, but also because as at present designed, the carburettor is mounted relatively high, and it might be a matter of some difficulty to provide direct gravity feed. A long induction pipe would give the necessary head, but would probably detract from the efficiency. There does not, however, seem to be any reason why the engine should not be capable of being run in the inverted position, and this arrangement will doubtless be adopted by several of the aircraft designers using this engine.

In connection with the Lympne competitions, we have come across one of the most priceless samples of Air Ministry

methods which that department has hitherto perpetrated. It will be remembered that at first it was announced that airworthiness certificates would be required for machines taking part. Then it was decided to do without these. There were, however, constructors who desired to get the C.A. and who wrote, supplying all the usual data, to the A.M. By way of reply, they received a communication which stated in effect, if not in actual words, that it had been decided that competitors would not be required to obtain the certificate of airworthiness, but that they must obtain a *certificate of exemption*, for which a charge of £12 10s. would be made. The Air Ministry's idea of the value of a bit of paper stating that someone's machine is exempt from the usual C.A. regulations is distinctly humorous.

SOME months ago we referred in these notes to the proposed formation of a Yorkshire Light 'Plane Club. We now learn, from Mr. E. T. W. Addyman, of Starbeck, Harrogate, that this club is now in the process of being formed, and that already a number of members are promised from Leeds, York, Keighley, Knaresborough and Harrogate, many of whom are old pilots or people with aircraft experience. In view of the Air Ministry announcement, published in *FLIGHT* last week, concerning the official encouragement which it is intended to offer, we would suggest that all who are interested in such a club should write to Mr. Addyman at above address so as to help to get things going. It will not, we feel sure, be long before these clubs spring up in the various parts of the country, and it should be remembered that the Air Ministry is at present only prepared to assist ten such clubs. The sooner, therefore, clubs are formed the more certain can they be of obtaining the official assistance promised.

ONCE more it is "Rhön-time" and there is great activity on and around the famous Wasserkuppe. For this year's competitions, which are for light aeroplanes as well as for pure gliders, no less than 78 machines have been entered. That all these will pass the eliminating trials is, perhaps, doubtful, but nevertheless, the fact that such an enormous number should have been entered speaks volumes for the enthusiasm of present-day Germany. We could have wished that some measure of the same spirit were to be found in this country, and hope that the Air Ministry's proposed schemes for the formation of light 'plane clubs will result in the subject becoming more prominent here than has hitherto been the case.

OUT of the 78 machines entered for the Rhön, no less than 30 are light 'planes, or, at any rate, gliders fitted with a power plant of some sort. It is gratifying to find that out of the 30 light 'planes quite a considerable number are fitted with British engines. For instance, although in some cases the identity of the power plant is not yet available, there are two Blackburne "Tomtit" engines, and no less than nine Douglas engines, mostly of the 500 c.c. type, but also other models.

THE most powerful machines entered are the Blume-Hentzen "Habicht" with 750 c.c. Siemens, and the Udet "Kolibri" with 750 c.c. Douglas. Two photographs of the latter machine were published in our issue of July 24, 1924. The smallest machines, or rather the lowest-powered, have Ilo engines of 296 c.c. of the type fitted by Arthur Martens in his glider at Rossitten.

It is of interest to note that out of the 30 light 'planes entered only four are biplanes, the rest monoplanes. This is, of course, in accordance with the generally accepted view in Germany that the monoplane type is the more efficient. It is likely that in the Lympne competitions a larger proportion of biplanes will be found. Space does not allow of publishing complete tables of data of the German machines this week, but we hope to be able to give some interesting information in a short time. It is interesting to note, in connection with the search for efficiency, that one of the light 'planes entered has a span of 21 metres (68 ft. 11 ins.) for an overall length of only 7 metres (23 ft.).

carried 700 lbs. of goods and one passenger. The flight was made in three stages, that from Croydon to Amsterdam occupying two hours; Amsterdam-Hanover 1 h. 32 mins.; Hanover-Berlin 1 h. 8 mins. The average speed works out at about 140 m.p.h. Needless to say, a strong wind helped.

#### London-Berlin in 4 Hours 41 Minutes

A NEW record for the London-Berlin air service was established on August 18 by Mr. Macintosh, who, flying a de Havilland 50 with Siddeley "Puma" engine, covered the 615 miles distance in 4 hours 41 minutes. The machine

# SUGGESTED AERIAL WARFARE RULES

## Despatch from the First British Delegate to the International Commission for the Revision of the Rules of Warfare

THE despatch from the first British Delegate to the International Commission for the Revision of the Rules of Warfare, together with the General Report of the Commission of Jurists to consider and report upon the Revision of the Rules of Warfare, was published as a White Paper (Command No. 2201) recently. The despatch can be obtained from H.M. Stationery Office, Kingsway, the price being 1s. net. The report is in two sections, Part I dealing with rules for the control of "Radio" in time of war, and Part II with rules of aerial warfare. In addition to the articles themselves, exhaustive explanatory notes and comments are given, but below we give only the actual articles, and we would advise readers desiring fuller particulars to obtain a copy of the Report. Following are the articles in numerical order :—

1. The rules of aerial warfare apply to all aircraft, whether lighter or heavier than air, irrespective of whether they are, or are not, capable of floating on water.

2. The following shall be deemed to be public aircraft : (a) Military aircraft. (b) Non-military aircraft exclusively employed in the public service. All other aircraft shall be deemed to be private aircraft.

3. A military aircraft shall bear an external mark indicating its nationality and military character.

4. A public non-military aircraft employed for customs or police purposes shall carry papers evidencing the fact that it is exclusively employed in the public service. Such an aircraft shall bear an external mark indicating its nationality and its public non-military character.

5. Public non-military aircraft other than those employed for customs or police purposes shall in time of war bear the same external marks, and for the purposes of these rules shall be treated on the same footing as private aircraft.

6. Aircraft not comprised in articles 3 and 4 and deemed to be private aircraft shall carry such papers and bear such external marks as are required by the rules in force in their own country. These marks must indicate their nationality and character.

7. The external marks required by the above articles shall be so affixed that they cannot be altered in flight. They shall be as large as is practicable, and shall be visible from above, from below, and from each side.

8. The external marks, prescribed by the rules in force in each State, shall be notified promptly to all other Powers. Modifications adopted in time of peace of the rules prescribing external marks shall be notified to all other Powers before they are brought into force. Modifications of such rules adopted at the outbreak of war or during hostilities shall be notified by each Power as soon as possible to all other Powers, and at latest when they are communicated to its own fighting forces.

9. A belligerent non-military aircraft, whether public or private, may be converted into a military aircraft, provided that the conversion is effected within the jurisdiction of the belligerent State to which the aircraft belongs and not on the high seas.

10. No aircraft may possess more than one nationality.

11. Outside the jurisdiction of any State, belligerent or neutral, all aircraft shall have full freedom of passage through the air and of alighting.

12. In time of war any State, whether belligerent or neutral, may forbid or regulate the entrance, movement or sojourn of aircraft within its jurisdiction.

13. Military aircraft are alone entitled to exercise belligerent rights.

14. A military aircraft shall be under the command of a person duly commissioned or enlisted in the military service of the State; the crew must be exclusively military.

15. Members of the crew of a military aircraft shall wear a fixed distinctive emblem of such character as to be recognisable at a distance in case they become separated from their aircraft.

16. No aircraft other than a belligerent military aircraft shall engage in hostilities in any form. The term "hostilities" includes the transmission during flight of military intelligence for the immediate use of a belligerent. No private aircraft, when outside the jurisdiction of its own country, shall be armed in time of war.

17. The principles laid down in the Geneva Convention, 1906, and the Convention for the adaptation of the said Convention to Maritime War (No. X of 1907) shall apply to

aerial warfare and to flying ambulances, as well as to the control over flying ambulances exercised by a belligerent commanding officer. In order to enjoy the protection and privileges allowed to mobile medical units by the Geneva Convention, 1906, flying ambulances must bear the distinctive emblem of the Red Cross in addition to the usual distinguishing marks.

18. The use of tracer, incendiary or explosive projectiles by or against aircraft is not prohibited. This provision applies equally to States which are parties to the Declaration of St. Petersburg, 1868, and to those which are not.

19. The use of false external marks is forbidden.

20. When an aircraft has been disabled, the occupants, when endeavouring to escape by means of a parachute, must not be attacked in the course of their descent.

21. The use of aircraft for the purpose of disseminating propaganda shall not be treated as an illegitimate means of warfare. Members of the crews of such aircraft must not be deprived of their rights as prisoners of war on the charge that they have committed such an act.

22. Aerial bombardment for the purpose of terrorising the civilian population, of destroying or damaging private property not of military character, or of injuring non-combatants is prohibited.

23. Aerial bombardment for the purpose of enforcing compliance with requisitions in kind or payment of contributions in money is prohibited.

24. (1) Aerial bombardment is legitimate only when directed at a military objective, that is to say, an object of which the destruction or injury would constitute a distinct military advantage to the belligerent. (2) Such bombardment is legitimate only when directed exclusively at the following objectives: Military forces; military works; military establishments or depôts; factories constituting important and well-known centres engaged in the manufacture of arms, ammunition or distinctively military supplies; lines of communication or transportation used for military purposes. (3) The bombardment of cities, towns, villages, dwellings or buildings not in the immediate neighbourhood of the operations of land forces is prohibited. In cases where the objectives specified in paragraph 2 are so situated that they cannot be bombarded without the indiscriminate bombardment of the civilian population, the aircraft must abstain from bombardment. (4) In the immediate neighbourhood of the operations of land forces, the bombardment of cities, towns, villages, dwellings or buildings is legitimate provided that there exists a reasonable presumption that the military concentration is sufficiently important to justify such bombardment, having regard to the danger thus caused to the civilian population. (5) A belligerent State is liable to pay compensation for injuries to person or to property caused by the violation by any of its officers or forces of the provisions of this article.

25. In bombardment by aircraft, all necessary steps must be taken by the commander to spare as far as possible buildings dedicated to public worship, art, science, or charitable purposes, historic monuments, hospital ships, hospitals and other places where the sick and wounded are collected, provided such buildings, objects or places, are not at the time used for military purposes. Such buildings, objects and places, must by day be indicated by marks visible to aircraft. The use of marks to indicate other buildings, objects or places, than those specified above is to be deemed an act of perfidy. The marks used as aforesaid shall be in the case of buildings protected under the Geneva Convention the red cross on a white ground, and in the case of other protected buildings a large rectangular panel divided diagonally into two pointed triangular portions, one black and the other white. A belligerent who desires to secure by night the protection for the hospitals and other privileged buildings above mentioned must take the necessary measures to render the special signs referred to sufficiently visible.

26. The following special rules are adopted for the purpose of enabling States to obtain more efficient protection for important historic monuments situated within their territory, provided that they are willing to refrain from the use of such monuments and a surrounding zone for military purposes, and to accept a special régime for their inspection :—

(1) A State shall be entitled, if it sees fit, to establish a zone of protection round such monuments situated in its



territory. Such zones shall in time of war enjoy immunity from bombardment. (2) The monuments round which a zone is to be established shall be notified to other powers in peace time through the diplomatic channel; the notification shall also indicate the limits of the zones. The notification may not be withdrawn in time of war. (3) The zone of protection may include, in addition to the area actually occupied by the monument or group of monuments, an outer zone, not exceeding 500 metres in width, measured from the circumference of the said area. (4) Marks clearly visible from aircraft either by day or by night will be employed for the purpose of ensuring the identification by belligerent airmen of the limits of the zones. (5) The marks on the monuments themselves will be those defined in article 25. The marks employed for indicating the surrounding zones will be fixed by each state adopting the provisions of this article, and will be notified to other Powers at the same time as the monuments and zones are notified. (6) Any abusive use of the marks indicating the zones referred to in paragraph 5 will be regarded as an act of perfidy. (7) A State adopting the provisions of this article must abstain from using the monument and the surrounding zone for military purposes, or for the benefit in any way whatever of its military organisation, or from committing within such monument or zone any act with a military purpose in view. (8) An inspection committee consisting of three neutral representatives accredited to the State adopting the provisions of this article, or their delegates, shall be appointed for the purpose of ensuring that no violation is committed of the provisions of paragraph 7. One of the members of the committee of inspection shall be the representative (or his delegate) of the State to which has been entrusted the interests of the opposing belligerent.

27. Any person on board a belligerent or neutral aircraft is to be deemed a spy only if acting clandestinely or on false pretences he obtains or seeks to obtain, while in the air, information within belligerent jurisdiction or in the zone of operations of a belligerent with the intention of communicating it to the hostile party.

28. Acts of espionage committed after leaving the aircraft by members of the crew of an aircraft or by passengers transported by it are subject to the provisions of the Land Warfare Regulations.

29. Punishment of the acts of espionage referred to in articles 27 and 28 is subject to articles 30 and 31 of the Land Warfare Regulations.

30. In case a belligerent commanding officer considers that the presence of aircraft is likely to prejudice the success of the operations in which he is engaged at the moment, he may prohibit the passing of neutral aircraft in the immediate vicinity of his forces or may oblige them to follow a particular route. A neutral aircraft which does not conform to such directions, of which he has had notice issued by the belligerent commanding officer, may be fired upon.

31. In accordance with the principles of Article 53 of the Land Warfare Regulations, neutral private aircraft found upon entry in the enemy's jurisdiction by a belligerent occupying force may be requisitioned, subject to the payment of full compensation.

32. Enemy public aircraft, other than those treated on the same footing as private aircraft, shall be subject to confiscation without prize proceedings.

33. Belligerent non-military aircraft, whether public or private, flying within the jurisdiction of their own State, are liable to be fired upon unless they make the nearest available landing on the approach of enemy military aircraft.

34. Belligerent non-military aircraft, whether public or private, are liable to be fired upon if they fly (1) within the jurisdiction of the enemy, or (2) in the immediate vicinity thereof and outside the jurisdiction of their own State, or (3) in the immediate vicinity of the military operations of the enemy by land or sea.

35. Neutral aircraft flying within the jurisdiction of a belligerent, and warned of the approach of military aircraft of the opposing belligerent, must make the nearest available landing. Failure to do so exposes them to the risk of being fired upon.

36. When an enemy military aircraft falls into the hands of a belligerent, the members of the crew and the passengers, if any, may be made prisoners of war. The same rule applies to the members of the crew and the passengers, if any, of an enemy public non-military aircraft, except that in the case of public non-military aircraft devoted exclusively to the transport of passengers the passengers will be entitled to be released unless they are in the service of the enemy, or are enemy nationals fit for military service. If an enemy private aircraft falls into the hand of a belligerent, members of the crew who are enemy nationals or who are neutral nationals

in the service of the enemy may be made prisoners of war. Neutral members of the crew who are not in the service of the enemy are entitled to be released if they sign a written undertaking not to serve in any enemy aircraft while hostilities last. Passengers are entitled to be released unless they are in the service of the enemy or are enemy nationals fit for military service, in which cases they may be made prisoners of war. Release may in any case be delayed if the military interests of the belligerent so require. The belligerent may hold as prisoners of war any member of the crew or any passenger whose service in a flight at the close of which he has been captured has been of special and active assistance to the enemy. The names of individuals released after giving a written undertaking will be notified to the opposing belligerent, who must not knowingly employ them in violation of their undertaking.

37. Members of the crew of a neutral aircraft which has been detained by a belligerent shall be released unconditionally if they are neutral nationals and not in the service of the enemy. If they are enemy nationals or in the service of the enemy, they may be made prisoners of war. Passengers are entitled to be released unless they are in the service of the enemy or are enemy nationals fit for military service, in which cases they may be made prisoners of war. Release may in any case be delayed if the military interests of the belligerent so require. The belligerent may hold as prisoners of war any member of the crew or any passenger whose service in a flight at the close of which he has been captured has been of special and active assistance to the enemy.

38. Where under the provisions of Articles 36 and 37 it is provided that members of the crew or passengers may be made prisoners of war, it is to be understood that, if they are not members of the armed forces, they shall be entitled to treatment not less favourable than that accorded to prisoners of war.

39. Belligerent aircraft are bound to respect the rights of neutral Powers, and to abstain within the jurisdiction of a neutral State from the commission of any act which it is the duty of that State to prevent.

40. Belligerent military aircraft are forbidden to enter the jurisdiction of a neutral State.

41. Aircraft on board vessels of war, including aircraft-carriers, shall be regarded as part of such vessels.

42. A neutral Government must use the means at its disposal to prevent the entry within its jurisdiction of belligerent military aircraft and to compel them to alight if they have entered such jurisdiction. A neutral Government shall use the means at its disposal to intern any belligerent military aircraft which is within its jurisdiction after having alighted for any reason whatsoever, together with its crew and the passengers, if any.

43. The personnel of a disabled belligerent military aircraft rescued outside neutral waters and brought into the jurisdiction of a neutral State by a neutral military aircraft and there landed shall be interned.

44. The supply in any manner, directly or indirectly, by a neutral Government to a belligerent Power of aircraft, parts of aircraft, or material, supplies or munitions required for aircraft is forbidden.

45. Subject to the provisions of Article 46, a neutral Power is not bound to prevent the export or transit on behalf of a belligerent of aircraft, parts of aircraft, or material, supplies or munitions for aircraft.

46. A neutral Government is bound to use the means at its disposal:—(1) to prevent the departure from its jurisdiction of an aircraft in a condition to make a hostile attack against a belligerent Power, or carrying or accompanied by appliances or materials the mounting or utilisation of which would enable it to make a hostile attack, if there is reason to believe that such aircraft is destined for use against a belligerent Power. (2) To prevent the departure of an aircraft the crew of which includes any member of the combatant forces of a belligerent Power. (3) To prevent work upon an aircraft designed to prepare it to depart in contravention of the purposes of this article. On the departure by air of any aircraft despatched by persons or companies in neutral jurisdiction to the order of a belligerent Power, the neutral Government must prescribe for such aircraft a route avoiding the neighbourhood of the military operations of the opposing belligerent, and must exact whatever guarantees may be required to ensure that the aircraft follows the route prescribed.

47. A neutral State is bound to take such steps as the means at its disposal permit to prevent within its jurisdiction aerial observation of the movements, operations or defences of one belligerent, with the intention of informing the other belligerent. This provision applies equally to a belligerent military aircraft on board a vessel of war.

48. The action of a neutral Power in using force or other means at its disposal in the exercise of its rights or duties under these rules cannot be regarded as a hostile act.

49. Private aircraft are liable to visit and search and to capture by belligerent military aircraft.

50. Belligerent military aircraft have the right to order public non-military and private aircraft to alight in or proceed for visit and search to a suitable locality reasonably accessible. Refusal, after warning, to obey such orders to alight or to proceed to such a locality for examination exposes an aircraft to the risk of being fired upon.

51. Neutral public non-military aircraft, other than those which are to be treated as private aircraft, are subject only to visit for the purpose of verification of their papers.

52. Enemy private aircraft are liable to capture in all circumstances.

53. A neutral private aircraft is liable to capture if it :—  
(a) Resists the legitimate exercise of belligerent rights.  
(b) Violates a prohibition of which it has had notice issued by a belligerent commanding officer under Article 30. (c) Is engaged in unneutral service. (d) Is armed in time of war when outside the jurisdiction of its own country. (e) Has no external marks, or uses false marks. (f) Has no papers, or insufficient or irregular papers. (g) Is manifestly out of the line between the point of destination indicated in its papers, and after such inquiries as the belligerent may deem necessary, no good cause is shown for the deviation. The aircraft, together with its crew and passengers, if any, may be detained by the belligerent, pending such inquiries. (h) Carries, or itself constitutes, contraband of war. (i) Is engaged in breach of a blockade duly established and effectively maintained. (k) Has been transferred from belligerent to neutral nationality at a date and in circumstances indicating an intention of evading the consequences to which an enemy aircraft, as such, is exposed. Provided that in each case (except k) the ground for capture shall be an act carried out in the flight in which the neutral aircraft came into belligerent hands, i.e., since it left its point of departure and before it reached its point of destination.

54. The papers of a private aircraft will be regarded as insufficient or irregular if they do not establish the nationality of the aircraft and indicate the names and nationality of the crew and passengers, the points of departure and destination of the flight, together with particulars of the cargo and the conditions under which it is transported. The logs must also be included.

55. Capture of an aircraft or of goods on board an aircraft shall be made the subject of prize proceedings, in order that any neutral claim may be duly heard and determined.

56. A private aircraft captured upon the ground that it has no external marks or is using false marks, or that it is armed in time of war outside the jurisdiction of its own country, is liable to condemnation. A neutral private aircraft captured upon the ground that it has disregarded the direction of a

belligerent commanding officer under article 30 is liable to condemnation, unless it can justify its presence within the prohibited zone. In all other cases, the prize court in adjudicating upon any case of capture of an aircraft or its cargo, or of postal correspondence on board an aircraft, shall apply the same rules as would be applied to a merchant vessel or its cargo or to postal correspondence on board a merchant vessel.

57. Private aircraft which are found upon visit and search to be enemy aircraft may be destroyed if the belligerent commanding officer finds it necessary to do so, provided that all persons on board have first been placed in safety and all the papers of the aircraft have been preserved.

58. Private aircraft which are found upon visit and search to be neutral aircraft liable to condemnation upon the ground of unneutral service, or upon the ground that they have no external marks or are bearing false marks, may be destroyed, if sending them in for adjudication would be impossible or would imperil the safety of the belligerent aircraft or the success of the operations in which it is engaged. Apart from the cases mentioned above, a neutral private aircraft must not be destroyed except in the gravest military emergency which would not justify the officer in command in releasing it or sending it in for adjudication.

59. Before a neutral private aircraft is destroyed, all persons on board must be placed in safety, and all the papers of the aircraft must be preserved. A captor who has destroyed a neutral private aircraft must bring the capture before the prize court, and must first establish that he was justified in destroying it under article 58. If he fails to do this, parties interested in the aircraft or its cargo are entitled to compensation. If the capture is held to be invalid, though the act of destruction is held to have been justifiable, compensation must be paid to the parties interested in place of the restitution to which they would have been entitled.

60. Where a neutral private aircraft is captured on the ground that it is carrying contraband, the captor may demand the surrender of any absolute contraband, if sending in the aircraft for adjudication is impossible or would imperil the safety of the belligerent aircraft or the success of the operations in which it is engaged. After entering in the log book of the aircraft the delivery or destruction of the goods, and securing, in original or copy, the relevant papers of the aircraft, the captor must allow the neutral aircraft to continue its flight.

61. The term "military" throughout these rules is to be read as referring to all branches of the forces, i.e., the land forces, the naval forces and the air forces.

62. Except so far as special rules are here laid down and except also so far as the provisions of Chapter VII of these Rules or international conventions indicate that maritime law and procedure are applicable, aircraft personnel engaged in hostilities come under the laws of war and neutrality applicable to land troops in virtue of the custom and practice of international law and of the various declarations and conventions to which the States concerned are parties.



### Married

SQDN.-LDR. G. B. A. BAKER, M.C., R.A.F., was married on August 2 at St. Mary's, Long Crendon, to CHARLOTTE MARIAN ANDERSON.

The marriage took place on August 16 at H.B.M. Consulate-General, Tientsin, North China, of JOHN STEPHEN BLANFORD, D.F.C. (the Buffs—General Res. of Officers and formerly of No. 206 Sqdn., R.A.F.), of the Asiatic Petroleum Co., eldest son of Mr. and Mrs. Ernest Blanford, of St. Hubert's Lodge, Watford, Herts, and MAUDE D'AVIGDOR, elder daughter of Mr. and Mrs. GEORGE NATHAN, of Tientsin and London.

Mr. ALAN CHAPMAN, late of the East Surrey Regiment and R.F.C., of Rydal Mount, Southbourne-on-Sea, was married

at the Chapel Royal on August 9, to Miss BEATRICE COX, of Cardean, Meigle.

### To be Married

The engagement is announced between FREDERICK LAURENCE PEARCE, R.A.F., only son of Mr. and Mrs. R. F. Pearce, of Kingsgate, and JOYCE MARY, only daughter of Mr. and Mrs. F. PEDLEY, Edgbaston, Birmingham.

A marriage has been arranged, and will shortly take place, between Squadron-Leader PERCY C. SHERREN, M.C., R.A.F., second son of Mr. and Mrs. W. D. Sherren, of Crapand, Prince Edward Isle, Canada, and JOYCE, third daughter of Mr. and Mrs. R. TILDEN SMITH, 13, Upper Brook Street, W.

### Bristol "Jupiters" in France

FROM articles appearing in the French aviation press, and from other sources of information, it appears that the Bristol "Jupiter" is making rapid strides in France. Quite a number of fighting and other aircraft are about to be

equipped with the Gnome-built "Jupiter," and at the *Section Technique* a "Jupiter" was put through a very strenuous test, totalling 150 hours' running. On being stripped after the tests the engine was found to be in perfect condition.



# NOTICES TO AIRMEN

## Italy: Customs Aerodromes, Regulations, Etc.

1. *Customs Air Stations.*—Aircraft entering or leaving Italy must arrive at or depart from one of the following customs air stations:—

(a) *Aerodromes.*—Ancona (Loreto), Brindisi (Marmorelle), Cagliari (Monserrato), Catania, Milan (Sesto San Giovanni), Naples (Capodichino), Pisa (San Giusto), Rome (Centocelle), Turin (Mirafiori), Udine (Campofornido), Verona (Bosco Mantico).

At Ancona and Cagliari no customs service has yet been provided.

(b) *Seaplane Stations.*—Ancona, Brindisi, Cagliari, Leghorn (or Livorno), Marsala, Naples (Granili), Orbetello, Syracuse, Venice (San Nicolo di Lodo).

At Cagliari, Marsala and Syracuse, no customs service has yet been provided.

3. *Aerodromes and Landing Grounds.*—The following details of customs aerodromes and landing grounds are available:—

(a) *Brindisi (Marmorelle).*—Civil aerodrome.

Position.—Latitude  $40^{\circ} 39' N.$ , longitude  $17^{\circ} 51' E.$  Situated 9 kms. W. of Brindisi between the main road and the railway to Bari.

Description.—Dimensions for landing, 1,000 m. N.-S. by 400 m. E.-W. Altitude, 118 ft. The E. portion of the aerodrome, of which the dimensions are given above, is good for landing, but is very soft in patches during the winter. The W. portion is very rough and undulating, and unfit for landing.

Obstructions.—N. side.—Main road and telegraph wires. E. side.—Disused hangars and buildings. W. side.—Two airship hangars and station buildings.

Markings.—A white figure (Fig. 1), 10 m. in diameter, is marked in the N.W. portion of the aerodrome. The small projection indicates north. Two T's are marked on the best landing area, one at the N. end and the other at the S. end, and indicate the normal landing direction. The northerly T is to be removed. A wind sleeve is displayed on the southern airship hangar.

Two searchlights are provided for night landings, which may be effected if previous notice has been given.

Accommodation, supplies, etc.—Hangars, facilities for small repairs, petrol, oil, and water are available.

Communications.—Telephone on aerodrome. Telegraphic address: "Aeroporto Brindisi."

(b) *Cagliari (Monserrato).*—Civil aerodrome.

Position.—Latitude  $39^{\circ} 15' N.$ , longitude  $9^{\circ} 09' E.$  Situated 4 kms. N.E. of Cagliari and 1 km. S.E. of Monserrato.

Description.—Dimensions for landing,  $800 \times 500$  m. approximately. Altitude, 56 ft. Good surface.

Obstructions.—N.W. side.—Hangars and buildings.

Markings.—A white figure (Fig. 2) is marked on the aerodrome. The long stroke indicates north.

Accommodation, supplies, etc.—Hangars, petrol, oil, and water are available.

Communications.—Telephone on aerodrome.

(c) *Catania.*—Civil landing ground.

Position.—Latitude  $37^{\circ} 28' N.$ , longitude  $15^{\circ} 04' E.$  Situated 5 kms. S.S.W. of the centre of Catania, on W. side of the main road.

Description.—Dimensions for landing,  $800 \times 800$  m. Altitude, 26 ft. Work has been proceeding on this landing ground, with a view to the establishment of an aerodrome. Present conditions are unknown.

Obstructions.—E. side.—Main road and telegraph wires. S. side.—Raised road. W. side.—Ditch.

Markings.—A white figure (Fig. 3) is marked on the landing area. The dot indicates north.

Accommodation, supplies, etc.—None at present.

(d) *Milan (Sesto San Giovanni).*—Air Force and civil aerodrome.

Position.—Latitude  $45^{\circ} 33' N.$ , longitude  $9^{\circ} 13' E.$  Situated  $8\frac{1}{2}$  kms. N. by E. of centre of Milan and 2 kms. W. by N. of Sesto San Giovanni.

Description.—Dimensions for landing, approximately 1,000 by 1,000 m. Altitude, 460 ft. (approx.). Level surface.

This aerodrome is to be the principal aerodrome at Milan, and improvements are being made.

Obstructions.—N., E. and W. sides.—Hangars.

Accommodation, supplies, etc.—Hangars, repair facilities, petrol, oil, and water are available.

Communications.—Telephone on aerodrome.

(e) *Naples (Capodichino).*—Air Force and civil aerodrome.

Position.—Latitude  $40^{\circ} 53' N.$ , longitude  $14^{\circ} 17' E.$  Situated  $4\frac{1}{2}$  kms. N.E. by N. of the centre of Naples and immediately E. of Capodichino.

Description.—Dimensions for landing,  $550 \times 500$  m. Altitude, 236 ft. Level, hard and grass-covered surface, rough within 45 m. of all boundaries and in E. corner.

Obstructions.—N.E. side.—Sheds, buildings 56 ft. high, and trees. S.E. side.—High trees and chimney 92 ft. high. S.W. and N.W. sides.—Houses, two electric-power cables, and trees.

Markings.—A white figure (Fig. 4) 10 m. in diameter is marked in the centre of the ground. The small projection indicates north. A T is marked near the S. corner of the ground and indicates the normal landing direction. A wind sleeve is flown from a mast in the N. corner of the ground.

The searchlights are not in operation at present, but landings may be effected at night if previous notice has been given.

Accommodation, supplies, etc.—Hangars, petrol, oil, and water are available.

Communications.—Telephone on aerodrome. No. 5010.

Telegraphic address: "Aeroporto Napoli Capodichino." W/T station in Naples, in telephonic communication with the aerodrome.

(f) *Pisa (San Giusto).*—Air Force and civil aerodrome.

Position.—Latitude  $43^{\circ} 41' N.$ , longitude  $10^{\circ} 23' E.$  Situated  $3\frac{1}{2}$  kms. S.S.W. of Pisa, on E. side of Pisa-Livorno railway.

Description.—Dimensions for landing, 850 m. N.-S. by 400 m. E.-W. Altitude, 26 ft. Firm, level surface. The south portion is flooded in rainy weather.

Obstructions.—N. side.—Hangars and buildings. E. and S. sides.—Ditch. W. side.—Railway and telegraph wires.

Markings.—A white figure (Fig. 5) 10 m. in diameter is marked near the S.E. corner of the aerodrome. The small projection indicates north. A T is marked at the S. end of the aerodrome and indicates the normal landing direction. A wind sleeve and an arrow are mounted on masts in the north portion of the aerodrome and indicate the wind direction.

Red lights are placed on obstructions (hangars, W/T aerials, &c.). Searchlights and an illuminated T situated in the centre of the aerodrome are provided for night landings, which may be effected if previous notice has been given.

Accommodations, supplies, etc.—Hangars, repair facilities, petrol, oil, and water are available.

Communications.—Telephone on aerodrome. No. 5-56. Telegraphic address: "Aeroporto Pisa S. Giusto."

(g) *Rome (Centocelle).*—Air Force and civil aerodrome.

Position.—Latitude  $41^{\circ} 52' N.$ , longitude  $12^{\circ} 34' E.$  Situated 6 kms. S.E. by E. of Rome railway terminus, on the S. side of the road to Valmontone and immediately N. of Fort Casilina.

Description.—Dimensions for landing,  $800 \times 850$  m. Altitude, 144 ft. Generally dry and firm surface. Rough in N.E. corner.

Obstructions.—N. side.—Road with overhead wires and houses. E. side.—Ruins. S. side.—Hangars, buildings, fort, and trees. W. side.—W/T station with six masts, 246 ft. high.

Markings.—A white figure (Fig. 6) 20 m. in diameter is marked near the centre of the landing area. The small projection indicates north. Two T's are marked on the ground, one near the E. and the other near the S.W. boundary of the landing area. These T's indicate the normal landing directions. The wind direction is indicated by a wind sleeve displayed in the N. corner of the ground and an indicator placed on a building in the S. corner.

An aerial lighthouse showing a white light and searchlights are provided for night landings, which may be effected if previous notice has been given.



FIGS. 1 2 3 4 5 6 7 8 9 10 11 12

Accommodation, supplies, etc.—Hangars, repair facilities, petrol, oil, and water are available.

Communications.—Telephone on aerodrome. No. 3086. Telegraphic address: "Aeroporto Roma Centocelle."

(h) *Turin (Mirafiori)*.—Air Force and civil aerodrome. Position.—Latitude 45° 01' N., longitude 7° 39' E. Situated 6 kms. S.S.W. of the centre of Turin and immediately E. of Mirafiori.

Description.—Dimensions for landing, 1,200 × 700 m. Altitude, 797 ft. Good surface. Bad ground to north.

Obstructions.—W. and E. sides.—Hangars and buildings.

Markings.—A white figure (Fig. 7) is marked on the ground. The small projection indicates north.

Accommodation, supplies, etc.—Hangars, repair facilities, petrol, oil and water are available.

Communications.—Telephone on aerodrome.

(i) *Udine (Campofornido)*.—Air Force and civil aerodrome.

Position.—Latitude 46° 02' N., longitude 13° 11' E. Situated 5 kms. S.W. by W. of the centre of Udine in the fork of the railway and road to Campofornido.

Description.—Dimension for landing, 1,250 × 500 metres. Altitude, 315 ft. Good surface, dry and firm.

Obstructions.—N.W. side.—Railway and aerodrome buildings. N.E. side.—Electric power cable and aerodrome huts. S.E. side.—Main road with telephone wires.

Markings.—A white figure (Fig. 8) with sides 10 metres long, is marked near the centre of the landing area. The small projection indicates north. A T is marked near the centre of the landing area and indicates the normal landing direction. A wind sleeve is flown from the centre hangar on the N.W. side of the ground.

Searchlights are provided for night landings, which may be effected if previous notice has been given.

Accommodation, supplies, etc.—Hangars, repair facilities, a small stock of petrol, oil and water are available.

Communications.—Telegraphic address: "Aeroporto, Udine."

(j) *Verona (Bosco Mantico)*.—Civil aerodrome.

Position.—Latitude 45° 28' N., longitude 10° 46' E. Situated 6 kms. N.W. of Verona and adjoining Fort Parona.

Description.—Altitude, 230 ft. approximately. This aerodrome is under construction.

Obstructions.—S. and W. sides.—Woods.

Accommodation, supplies, etc.—A hangar is available.

Note.—Pending further information, this aerodrome should not normally be used.

(k) *Other Aerodromes*.—The following is a list of other aerodromes and landing grounds (without customs facilities) in Italy. The letters in column 1 signify:—M—Royal Italian Air Force. C—Civil. A—Aerodrome. L.G.—Landing ground.

The Air Force stations that are not shared with the civil authorities are only available for use by civil aircraft in cases of emergency.

			Metres.	Ft.	
Florence ..	43 47 N.	2½ kms.	550 ×	174	Hangar, minor
C.A.	11 17 E.	E. of	550		repairs and sup-
	(approx.)	town			plies. This aero-
		(approx.)			drome is privately
					owned by Signor
					Nardino.
Foggia ..	41 26 N.	2½ kms.	1,000 ×	23	Hangars, re-
M.A.	15 32 E.	S. of	750		pairs, supplies,
		town			telephone and
					W/T.
Furbara ..	41 59 N.	1 km.	800 ×	16	Hangars, minor
M.A.	12 01 E.	S.E. of	600		repairs, supplies
		railway			and telephone.
		station			Warning: This
					aerodrome is used
					for bombing and
					gunnery practice.
					656—None.
Gardolo	46 06 N.	4½ kms.	600 ×		
(Trent)	11 06 E.	N.N.W.	220		
L.G.		of			
		Trent.			
Ghedì ..	45 23 N.	4 kms.	1,200 ×	279	Hangars, re-
M.A.	10 19 E.	S.E. of	800		pairs, supplies and
	(approx.)	town			telephone.
Malpensa	45 38 N.	6 kms.	1,000 ×	761	Hangars, re-
M.A.	8 43 E.	W.S.W.	1,500		pairs, supplies and
		of Gal-	(approx.)		telephone.
		larate			
Padua ..	45 23 N.	2½ kms.	650 ×	49	Hangars, re-
M.A.	11 51 E.	S.W. of	250		pairs, supplies and
	(approx.)	town			telephone.
Parma ..	44 48 N.	3 kms.	600 ×	187	Hangar and
M.A.	10 17 E.	W. of	500		telephone.
	(approx.)	town			
Pescara ..	42 25 N.	5 kms.	520 ×	66	Hangar and
M.A.	14 11 E.	S.S.W.	240		telephone.
	(approx.)	of			
		town			
Piacenza	45 02 N.	4 kms.	650 ×	200	Hangars,
(Le Mose)	9 44 E.	E.S.E.	300		limited supplies
L.G.	(approx.)	of town			and telephone.
Ravenna	44 21 N.	7 kms.	950 ×	10	Hangar and
M.A.	12 12 E.	S. of	320		telephone.
	(approx.)	town			
Sarzana	44 06 N.	3½ kms.	600 ×	39	Hangar and
L.G.	10 00 E.	S.E. of	280		telephone.
	(approx.)	town			
Trieste	45 37 N.	6 kms.	570 ×	16	Hangars and
(Zaule)	13 49 E.	S.E. of	360		limited supplies.
C.A.		Trieste			White marking
					(Fig. 11) and T
					indicating normal
					landing direction.
					Wind sleeve.
					Searchlights and
					illuminated T;
					telephone.
Venice	45 26 N.	E. of	850 ×	16	Hangars and
San	12 23 E.	Venice,	150		supplies. White
Nicolo di		at N.			marking (Fig. 12)
Lido) M.		end of			and T indicating
& C.A.		Lido			normal landing
		island			direction. Wind
					sleeve. Search-
					lights. Ground is
					surrounded by
					obstructions.

4. *Seaplane Stations*.—The following details of customs seaplane stations are available:—

(a) *Brindisi*.—Air Force seaplane station.

Position.—Latitude 40° 39' N., longitude 17° 58' E. Situated 2 kms. N.E. by E. of the centre of Brindisi, at Bocca di Puglia, on the N.W. shore of the outer harbour.

Description.—Dimensions of the well-sheltered water within harbour breakwaters, 1½ kms. × 1 km.

Accommodation, supplies, etc.—Hangars, slipways, facilities for small repairs, petrol, oil and water are available.

Communications.—Telephone on station.

(b) *Naples (Granili)*.—Air Force seaplane station.

Position.—Latitude 40° 51' N., longitude 14° 17' E. Situated at Granili, 2 kms. S.E. of Naples railway station, and within the outer harbour.

Description.—Dimensions of the well-sheltered water within the harbour, 2 kms. × 1 km.

Accommodation, supplies, etc.—Hangars, repair facilities, petrol, oil and water are available.

Name and Class.	Position.		Dimen- sions.	Height above sea level and accom- modation, etc.
	Geo- graphical	Local.		
Alessan- dria, M.A.	44 56 N. 8 38 E.	1½ kms. N.E. of town.	700 × 300	312—Hangars, tele- phone and W/T.
Aviano .. M.A.	46 02 N. 12 37 E.	4½ kms. S.S.E. of town	2,500 × 1,100	384—Hangar, re- pairs, supplies and telephone.
Bologna .. C. & M.A.	44 30 N. 11 20 E. (approx.)	1 km. N.W. of town	600 × 250	144—Hangar, minor repairs, supplies and telephone. White marking (Fig. 9.) Danger- ous ground.
Bolzano .. L.G.	46 28 N. 11 19 E. (approx.)	5 kms. S.S.W. town	550 × 250	180—Hangar.
Borore - (Macomer) L.G.	40 13 N. 8 48 E. (approx.)	6 kms. S.S.E. of Ma- comer	800 × 600	1112—Stone wall surrounds ground.
Campiglia Marittima C.L.G.	43 01 N. 10 36 E.	4½ kms. S.S.W. of town	700 × 350	13—Limited supply of petrol and oil. White marking (Fig. 10) and T indicating normal landing direction.



(c) *Orbetello*.—Air Force seaplane station.

Position.—Latitude  $42^{\circ} 26' N.$ , longitude  $11^{\circ} 12' E.$  and  $11^{\circ} 13' E.$  There are two seaplane stations, one situated immediately S.W., and the other immediately E. of Orbetello. Both stations face the southern lake of the Stagno di Orbetello.

Description.—Dimensions of the well-sheltered Stagno di Orbetello (Southern Lake),  $6 \times 2$  kms.

Accommodation, supplies, etc.—Hangars, petrol, oil and water are available.

(d) *Venice (San Nicolo di Lido)*.—Air Force seaplane station.

Position.—Latitude  $45^{\circ} 26' N.$ , longitude  $12^{\circ} 23' E.$  Situated E. of Venice, at the N. end of Lido Island and immediately N. of Fort S. Nicolo di Lido.

Description.—Dimensions of well-sheltered water within the Porto di Lido,  $2 \times 2$  kms.

Markings.—A white figure (Fig. 12), the diameter of the circle being 10 metres, is marked on the aerodrome which adjoins the seaplane station. The small projection indicates north. There is also a T marked on the aerodrome, but this only indicates the normal landing direction for aeroplanes.

Accommodation, supplies, etc.—Hangars are available and petrol, oil and water may be obtained from the adjoining aerodrome.

Communications.—Telephone at the barracks of the 3rd Coastal Artillery Regiment adjoining. No. 1-31 Lido.

### 5. Regulations Governing Flight.

#### (a) Aerial Corridors.

The Alpine frontier of Italy may only be crossed at the following passes:—(1) Ventimiglia. (2) Mont Cenis. (3) Iselle (Simplon). (4) Chiasso (between Lakes Lugano and Como). (5) Brennero (30 kms. S. of Innsbruck). (6) Tricorno (23 kms. N.N.W. of Tolmino). (7) Nauport (45 kms. N.E. of Trieste).

Along the whole of the Alpine frontier zone, aircraft must maintain a height of 2,000 m. (6,500 ft. approx.) above the ground.

#### (b) Photographic Apparatus, etc.

No photographic or cinematographic apparatus, or carrier pigeons, may be carried in foreign aircraft flying over Italian territory.

#### (c) Height of Flight, Acrobatics, etc.

It is strictly prohibited:—

(i) To engage in aerial acrobatics of any kind whatsoever at an altitude of less than 1,000 m. (3,280 ft.) above the aerodrome.

(ii) To engage in aerial acrobatics above inhabited areas.

(iii) To fly over inhabited areas at a height of less than 1,000 m. (3,280 ft.) in the case of flying machine and of less than 200 m. (660 ft.) in the case of free balloons and airships.

(iv) To carry out any flight which on account of low altitude or the vicinity of persons or dwellings may in any way endanger the public safety.

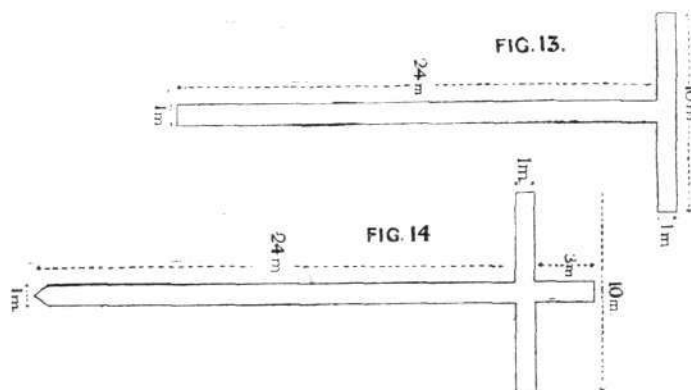
(v) To carry out any flight at an altitude of less than 1,000 m. (3,280 ft.) above any aerodrome or place in which a public meeting is being held. This rule may be waived only in the

case of meetings of a sporting nature when a special written authorisation has been received from the competent aeronautical authorities and from the competent political authorities having jurisdiction over the area within which the meeting is to be held. Such authorisation will only be granted where all the circumstances relating to the event and to the locality are such as to guarantee public safety.

#### (d) Aerodrome Control.

(i) *Acrobatic landings* are prohibited at every aerodrome throughout Italy.

(ii) *Direction of Landing*.—At every aerodrome, the normal line of landing and "taking off" is (or will be) indicated on the ground by a fixed T, the dimensions of which conform to those shown in Fig. 13. The short arm of the T indicates the proper position for the undercarriage wheels to touch



ground, and the long arm indicates the direction for landing. Machines must therefore land down the T. The T is oriented in the most natural direction of landing, taking into account the direction of the prevailing wind.

The direction of landing indicated by the T is obligatory for all aircraft.

If an aeroplane, owing to the necessity of landing up wind be obliged to land in a direction different from that indicated by the T, and if the dimensions of the aerodrome permit, the signal to the aircraft in flight is given by placing in the new landing direction white ground strips in the form of a Roman dagger, as shown in Fig. 14. Landings must then be effected down the dagger—i.e., from the hilt towards the point.

#### 6. Previous Notices.

Notices to Airmen Nos. 66 of 1921, 23 and 57 of 1922 are hereby cancelled.

#### 7. Authority.

For paras. 1 and 2, Italian Commissariat Decree, dated November 15, 1923.

For para. 5 (a) and (b), Italian Ministry of War.

For para. 5 (c) and (d), Italian Ministerial Decree No. 101, dated November 19, 1921.

(No. 62 of 1924.)



London Gazette, August 12, 1924

#### General Duties Branch

The follg. Lts., R.A., are granted temp. comms. as Flying Offrs., on secdg. for four years' duty with R.A.F.:—R. A. King (July 29); C. C. Harris (Aug. 1). The follg. Pilot Offrs. are promoted to rank of Flying Offr.:—K. K. Brown (July 13); A. R. Woodyatt (Aug. 9).

The follg. resign their short service comms. (Aug. 13):—Flying Offr. S. F. Coles, Pilot Offr. C. D. S. I. McDevitte. Flying Offr. J. E. V. Lindsey (Lt. A. and S. High's.) relinquishes his temp. commn. on return to Army

### ROYAL AIR FORCE INTELLIGENCE

#### General Duties Branch

*Air Commodore*.—B. C. H. Drew, C.M.G., C.B.E., to H.Q. Inland Area, for duty as Chief Staff Officer; 27.8.24.

*Wing Commander*.—A. W. Tedder to No. 2 Flying Training Sch., Digby, pending taking over command instead of to No. 10 Group H.Q., as previously notified; 3.9.24.

*Squadron-Leaders*.—W. G. Sitwell, D.S.C., to No. 1 Group H.Q., Kidbrooke; 1.9.24. G. S. M. Insall, V.C., M.C., to No. 1 Flying Training Sch., Netheravon; 13.8.24. C. O. F. Modin, D.S.C., to R.A.F. Base, Gosport, on transfer to Home Estab.; 1.9.24.

*Flight-Lieuts.*—J. F. Lawson, to R.A.F. Base, Calshot; 1.9.24. C. Porri, to R.A.F. Depot, on transfer to Home Estab.; 5.8.24. N. L. Desoer, to No. 13 Sqdn., Andover; 30.9.24.

*Flying Officers*.—P. H. Hunter, to R.A.F. Base, Calshot, on transfer to Home Estab.; 7.7.24. P. J. Hayes, M.B.E., A.F.C., to Electrical and Wireless Sch., Flowerdown; 12.8.24. R. Mundy-Cox and L. E. Cutforth, to Sch. of Army Co-operation, Old Sarum; 15.8.24. R. F. Overbury, to

(July 31); Pilot Offr. G. Coffin is removed from R.A.F., His Majesty having no further use for his services (July 29).

#### Stores Branch

Flying Offr. F. C. P. Roberts is placed on ret. list on acct. of ill-health (Aug. 13).

#### Reserve of Air Force Officers

The follg. are granted comms. on probation in Class A General Duties Branch in ranks stated (Aug. 12):—Flying Offrs.—E. M. Bates, H. A. A. Borse, J. C. Croft, C. R. Vaughan. Pilot Offr.—S. G. Shand.

#### Medical Branch

*Squadron-Leader*.—D'A. Power, M.C., to Sch. of Tech. Training (Men), Manston; 2.9.24.

*Flight-Lieut.*—C. Y. Roberts, to Aircraft Park, India; 14.7.24.

*Flying Officers*.—E. D. Gray, M.B., M.A., to No. 56 Sqdn., Biggin Hill; 6.8.24. R. S. MacLachy, to Research Lab. and Medical Sch. of Instruction, Hampstead, on appointment to a Short Service Commn. for short course; 11.8.24.

## VACANCIES FOR 500 AIRCRAFT APPRENTICES

THE Air Ministry announces that in continuation of the policy of training aircraft apprentices in the skilled trades of the Royal Air Force, two examinations for the entry in January, 1925, of over 500 suitable boys, who are physically fit and who will be between the ages of 15 and 16½ at the time of entry, will be held on October 17 and November 4 respectively. The closing date for the receipt of completed forms of application for the first examination, which is an "Open" competition conducted by the Civil Service Commissioners, is August 28, and for the second "Limited" competition, which is carried out by the Air Ministry in conjunction with the local education authorities of the country, the forms of nomination must be received in the Air Ministry by October 7.

Candidates for the Civil Service "Open" competition should apply for forms of application to The Secretary, Civil Service Commission, Burlington Gardens, London, W.1.

For the "Limited" competition, boys who are still at school should apply to their head masters with a view to securing a nomination from the education authority responsible for the school. If they have left school they should apply to the Advisory Committee for Juvenile Employment in their area, while Boy Scouts can also apply to the authorities of the Boy Scout Association, and Territorial Cadets to the officers commanding their units.

## ITEMS FROM KING'S CUP RACE

In last week's issue, although we gave a detailed account of the race for the King's Cup, illustrated by numerous pictures, there was somewhat naturally not the space nor the time to include a number of items of interest. Consequently some of these are given below.

The King's assistant private secretary sent the following telegram to the Royal Aero Club:—"The King desires me to thank you for keeping him informed of the race for his Cup, and His Majesty offers his hearty congratulations to the owner and pilot of the winning aeroplane."

Further details concerning the doings of the two Supermarine amphibians are now available. Biard's machine made its first stop for fuel at Seaton Carew, and there was some delay in re-starting the engine. Ultimately Biard got away, but when 2,000 ft. above Tyne strange noises were heard in the engine. On switching off and coming down to 1,500 ft., the crew discovered bits of aluminium flying about, and at 1,200 ft. the gear-case "burst." The propeller flew off and hit the radiator and petrol tank, and finally disappeared over the top plane. Fortunately it missed the tail planes. A safe landing was made at Blaydon race course. The second Supermarine Seagull, piloted by the Master of Sempill, covered the distance from Martlesham to Seaton Carew in 2 hours 20 minutes., and did Seaton Carew-Renfrew in 2 hours 8 minutes. While near Leith a flying wire fitting broke, but no other damage resulted. Thanks to General Weir, who was looking after the "Seagulls" at Renfrew, an old fitting was found and mounted, but an hour's delay resulted. Renfrew-Holyhead was done in 2 hours 12 minutes, and Holyhead-Padstow in 2 hours 32 minutes, the final stage, Padstow-Lee-on-Solent, occupying 2 hours 4 minutes. The total flying time was 11 hours 16 minutes.

On many occasions already, Sir Charles Wakefield, Bart., has given practical proof of his very real interest in aviation, and he has done a great deal of good in the development of flying. Sir Charles's win of the King's Cup is, therefore, a very popular one, and he is to be heartily congratulated on securing this much-coveted trophy.

Close upon 1,000 miles in one day is a very severe test, not only upon the pilot but on the machine, particularly the engine. That being so, the quality of the fuel used naturally has a great effect on the efficiency, and in this connection it is of interest to record that Mr. Cobham was using "B.P.," the petrol produced at the refinery of the Anglo-Persian Oil Company in South Wales. Mr. Alan S. Butler, who finished third on "Sylvia," was also using "B.P.," as were also Capt. Barnard and Mr. King.

## Mishap to Major Zanni

As this week's issue of FLIGHT is ready for press information reaches us that Major Zanni had the misfortune to overturn his machine on taking off from the Hanoi aerodrome en route for Canton. It appears that the continuous rains had rendered the aerodrome soft, so that the wheels of the machine sank into the ground. The machine is stated to be fairly badly damaged, but Major Zanni and his engineer, Mr. Beltrame, escaped injury. It seems likely that a considerable delay will be unavoidable.

## SIDE-WIND

It is difficult to imagine a more gruelling test of sparking plugs than that involved by an aviation endurance record; and more especially so when the aeroplane employed is of the single-engined type. We were interested to learn, therefore, from the A.C.-Sphinx Sparking Plug Co., Ltd., that in the recent Aviation Endurance Test in France Messieurs Coupet and Drouhin flew a Farman aeroplane—equipped with A.C. plugs—for 37 hrs. 59 mins. 10 secs., and thereby broke the record previously held by America. The engine used was a 12-cylindere Farman. The plugs were stated to have given complete satisfaction.

## IMPORTS AND EXPORTS, 1923-1924.

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910). For 1910 and 1911 figures see "FLIGHT" for January 25, 1912; for 1912 and 1913, see "FLIGHT" for January 17, 1914; for 1914, see "FLIGHT" for January 15, 1915; for 1915, see "FLIGHT" for January 13, 1916; for 1916, see "FLIGHT" for January 11, 1917; for 1917, see "FLIGHT" for January 24, 1918; for 1918, see "FLIGHT" for January 16, 1919; for 1919, see "FLIGHT" for January 22, 1920; for 1920, see "FLIGHT" for January 13, 1921; for 1921, see "FLIGHT" for January 19, 1922; for 1922 see "FLIGHT" for January 18, 1923; and for 1923, see "FLIGHT" for January 17, 1924.

	Imports.		Exports.		Re-Exports.	
	1923.	1924.	1923.	1924.	1923.	1924.
Jan. . .	466	2,213	60,079	52,239	280	2,219
Feb. . .	641	920	120,236	26,349	3,040	335
Mar. . .	589	11,381	71,945	34,113	689	509
Apr. . .	8,508	373	167,757	56,998	462	6,014
May. . .	845	3,426	55,427	125,138	728	4,162
June . .	1,433	1,219	141,381	87,629	1,410	2,115
July. . .	192	1,510	62,025	179,292	1,334	2,708
	12,674	21,042	678,850	561,758	7,943	18,062

## PUBLICATIONS RECEIVED

*Air Navigation Directions*, 1924 (A.N.D. 3 D.), *Air Navigation Act*, 1920. London: H.M. Stationery Office, Kingsway, W.C. Price 2d. net.

*Britain's Welcome*, London, 1924.—"Proof," No. 15. Dobson, Molle and Co., Ltd., St. Clair Works, Edinburgh.

*Commissariato dell'Aeronautica. Rendiconti Tecnici*, Vol. XII, No. 5.—Direzione Superiore del Genio e delle Costruzioni Aeronautiche, Viale Giulio Cesare, Rome. Price L. 40.

## AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

### APPLIED FOR IN 1923

Published August 21, 1924.

- 11,101. DE HAVILL and AIRCRAFT Co., LTD., and A. E. HAGG. Aerofoils. (219,388.)  
 17,830. H. LEITNER. Screw propellers. (219,477.)  
 20,371. G. H. HARDY. Helicopters. (219,510.)  
 29,847. STANDARD STEEL PROPELLER Co. Aeroplane propellers. (219,568.)

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